

### Settlement Agreement/ Consent Order

In October 1995, the State of Idaho, the Department of the Navy, and DOE settled the cases of Public Service Company of Colorado v. Batt, involving the management of spent nuclear fuel at INEEL. The resulting Consent Order (USDC 1995) requires DOE among other things to:

- Complete calcination of all remaining non-sodium bearing liquid HLW by June 1998 (completed February 1998)
- Start negotiations with the State of Idaho by December 31, 1999 regarding a plan and schedule for treatment of calcined waste
- Start calcination of liquid mixed transuranic waste/SBW by June 2001 (begun February 1998)
- Complete calcination of liquid mixed transuranic waste/SBW by December 2012
- DOE presently contemplates that a plan and schedule shall provide for the completion of the treatment of all calcined waste located at INEEL by a target date of December 31, 2035, so that it is ready for removal from the State of Idaho

The Settlement Agreement/Consent Order also addresses the potential that the National Environmental Policy Act process may result in selection of an action that conflicts with the actions in the Agreement. In that event, DOE may request that the Agreement be modified to conform to the selected actions.

### Site Treatment Plan

Under the Federal Facility Compliance Act of 1992, DOE was required to enter into an agreement with the State of Idaho as to how it would attain compliance with applicable treatment requirements for mixed wastes at INEEL. The Site Treatment Plan (DOE 1998a) sets forth the terms and conditions that DOE must comply with to satisfy the land disposal restrictions applicable to the hazardous components of the mixed wastes at INTEC. The Plan proposes treatment of mixed HLW and mixed transuranic waste/SBW by calcination through the New Waste Calcining Facility and a new Remote-Handled Immobilization Facility for processing the waste into forms suitable for disposal. In accordance with provisions of the Site Treatment Plan, these waste treatment proposals are updated annually by DOE.

## 1.3 EIS Scope and Overview

This EIS examines potential environmental impacts associated with managing mixed HLW and mixed transuranic waste/SBW and closing the HLW management facilities at INTEC. The EIS also includes an alternative under which the Idaho HLW would be treated at the Hanford Site.

The EIS has been prepared in accordance with requirements established under the National Environmental Policy Act of 1969, as amended (42 USC 4321 et seq), the Council on Environmental Quality (40 CFR 1500 et seq.), and DOE (10 CFR 1021). In addition, this EIS seeks to fulfill the objectives of NEPA as discussed in the Western Governors' Associations' Policy Statement (WGA 1996).

### *What is Road Ready?*

*The Settlement Agreement/Consent Order states that “DOE shall accelerate efforts to evaluate alternatives for the treatment of calcined waste so as to put it in a form suitable for transport to a permanent repository or interim storage facility outside Idaho.” In this EIS, DOE uses the term “road ready” to describe the condition the waste must be in so that it can be transported out of Idaho and be accepted by a designated storage or disposal facility.*

*In order to be “road ready” to leave Idaho, the mixed HLW must meet the appropriate regulatory requirements for shipping radioactive waste over U.S. highways or rail systems. Meeting regulatory requirements includes putting the treated waste into a canister that can then be over-packed with a transportation cask. The transportation cask will be designed for protection from normal, incident-free transportation, as well as from accident conditions. In order to be accepted by a designated storage or disposal facility, the waste must meet the specific waste acceptance criteria of that facility.*

*For example, the waste acceptance criteria for HLW at a geologic repository are being developed by DOE. These criteria include performance assessment standards, such as how much heat can be generated over time, safety analysis concerns, and any other requirements that NRC, the licensing authority, determines are appropriate. On June 1, 1990 EPA determined that the principal waste form for HLW geologic disposal is borosilicate glass, (40 CFR 268.42) a standard that has gained international acceptance (DOE 1996d, 1999d; TRW 1997). Other waste forms may be considered and granted equivalency, if it can be demonstrated that the waste meets the criteria for acceptance at the disposal facility.*

A key element of DOE decisionmaking is a thorough understanding of environmental impacts that may occur when implementing a proposed action. DOE, with the State of Idaho as a cooperating agency, has prepared this draft EIS to (1) assess various treatment and disposal alternatives and (2) provide the necessary background, data, and analyses to help decisionmakers and the public understand the potential environmental impacts of each alternative. DOE will present its decision in a Record of Decision, which will be issued after the final EIS is complete.

During DOE’s initial activities preparing this EIS, it became apparent that the State of Idaho has special expertise and perspectives that can assist DOE in its data gathering and analysis activities. From the perspective of DOE, it was advantageous to obtain input from the State on the regulatory implications of implementing the various alternatives considered in the EIS as early as possible in the process. From the State’s perspective, early consideration of these regulatory implications and consideration of the technical aspects of the alternatives by State experts would improve the EIS and facilitate DOE’s program toward meeting the legal requirements of the Idaho Settlement Agreement/Consent Order, a goal the State has a very strong interest in seeing met. Among other things in the Idaho Settlement Agreement/Consent Order, DOE agreed to evaluate alternatives for the treatment of mixed HLW and treat all mixed HLW at INEEL so that it is ready to be moved out of Idaho for disposal by a target date of 2035. The EIS will help DOE make informed decisions about how best to carry out these activities. Agencies that agree to work together on an EIS can do so formally in several different ways (40 CFR 1501 et seq.). Accordingly, on September 24, 1998, the State of Idaho and DOE entered into a Memorandum of Understanding in which both parties agreed that the most effective relationship would be one in which DOE serves as “Lead Agency” and the State serves as the “Cooperating Agency.”

The organization of this EIS is as follows. Chapter 2 identifies DOE’s purpose and need for action. The alternative methods for achieving the purpose and need are described in Chapter 3, Alternatives. The affected environment for the proposed waste processing and facility disposi-

tion activities is described in Chapter 4 of the EIS. The environmental consequences of the alternatives are presented in Chapter 5. Chapter 6, Statutes, Regulations, Consultations, and Other Requirements, provides more details on related environmental statutes and regulations. Chapters 7 through 9 list references, document preparers and the conflict of interest disclosure statement, respectively. The appendices provide technical information, including analytical methods, detailed results, and a glossary of terms used.

### 1.3.1 OTHER RELATED NEPA AND CERCLA DOCUMENTS

DOE must manage the HLW generated at facilities across the country that were involved in the processing of spent nuclear fuel. Under current DOE plans, certain types of waste would be disposed of at geologic repositories, such as the Waste Isolation Pilot Plant for defense transuranic waste or the potential repository at Yucca Mountain for HLW and spent nuclear fuel. DOE must formulate alternatives for management of HLW and mixed transuranic waste/SBW at INTEC that are consistent with alternatives considered in other EISs that relate to INEEL. Consistency means that the Idaho HLW & FD EIS should reasonably take into account activities considered in other EISs that may affect the management of wastes or disposition of facilities at INEEL.

An EIS may use previously developed information and analyses by “tiering” from other EISs. This EIS will use and supplement, as necessary, the information contained in the SNF & INEL EIS (DOE 1995) and the *Final Waste Management PEIS for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (Waste Management PEIS) (DOE 1997b).

Volume 2 of the SNF & INEL EIS is a sitewide EIS for INEEL that assessed impacts from environmental restoration and waste management actions that may be taken over a 10-year period from 1995 to 2005. Volume 2 analyzed the potential environmental impacts associated with ongoing mixed HLW treatment, storage, and management operations at the INEEL. In a Record of Decision based on the SNF & INEL

EIS (60 FR 28680; June 1, 1995), DOE decided to resume operation of the New Waste Calcining Facility calciner and to convert the mixed HLW and mixed transuranic waste/SBW to calcine prior to further treatment. DOE also decided to construct a facility to treat the mixed HLW calcine (and any remaining liquid waste) in accordance with RCRA requirements and on a schedule to be negotiated with the State of Idaho under the Federal Facility Compliance Act. In addition, DOE would install special equipment in the Tank Farm to rinse the tanks’ interior walls and remove the tank heels in preparation for closure. The mixed HLW calcine in bin set 1 (which does not meet current design standards) would be transferred to bin set 6 or 7, or modifications would be made to mitigate stress on bin set 1.

This EIS analyzes the environmental impacts of HLW and mixed transuranic waste/SBW management and facility disposition alternatives that encompass a broader timeframe than the 10-year period evaluated in Volume 2 of the SNF & INEL EIS. Decisions under this EIS will include (1) the future operational use of the New Waste Calcining Facility calciner, (2) the type of separations and/or immobilization technologies to be used for the mixed transuranic waste/SBW and mixed HLW at INTEC, and (3) methods for closure of HLW management facilities.

The Waste Management PEIS, issued in May 1997, is a DOE complex-wide study examining the environmental impacts associated with managing five types of radioactive and hazardous wastes generated by past, present, and future activities at a variety of sites located around the United States. The five types of waste examined in the Waste Management PEIS are low-level mixed waste, low-level waste, transuranic waste, hazardous waste, and HLW. The Waste Management PEIS characterizes and identifies the volumes of HLW at DOE facilities nationwide, including the INEEL, and uses or updates information presented in the SNF & INEL EIS. For HLW, the Waste Management PEIS only evaluated the storage of immobilized HLW canisters; treatment and disposal of HLW were not analyzed. The preferred alternative in the Waste Management PEIS is for each of the four sites (one of which is INEEL) to store its own immobilized HLW canisters onsite until shipment

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to a geologic repository for disposal. The Record of Decision to proceed with DOE's preferred alternative of decentralized storage for immobilized HLW was issued August 26, 1999 (64 FR 46661). The storage of INEEL's immobilized HLW under the waste processing alternatives in the Idaho HLW & FD EIS is consistent with the HLW Record of Decision based on the Waste Management PEIS.

The low-level waste fraction from HLW processing at INEEL, Hanford, West Valley, and Savannah River was specifically excluded from the scope of the Waste Management PEIS. This reflected an understanding in 1995 that each site would specifically evaluate these waste fractions as part of their site specific EISs.

In addition to the programmatic EISs described above, other related National Environmental Policy Act analyses and documents that will be considered in the Idaho HLW & FD EIS include:

**The Advanced Mixed Waste Treatment Project (AMWTP) EIS** – The AMWTP EIS analyzes possible environmental impacts of treatment of mixed low-level, transuranic waste, and alpha-contaminated mixed low-level waste at INEEL. The AMWTP EIS is potentially relevant to the proposed HLW EIS because a portion of the inventory of radioactive waste at INTEC may be considered for treatment at the proposed AMWTP. The final EIS was issued in January 1999 (DOE 1999e). The Record of Decision to proceed with DOE's preferred alternative for construction and operation of the AMWTP (64 FR 16948) was issued April 7, 1999. In accordance with the Settlement Agreement/Consent Order, DOE must complete construction of the AMWTP by December 2002 and commence operations no later than March 2003.

**Draft EIS for the Treatment and Management of Sodium-Bonded Spent Nuclear Fuel (DOE 1999f)** – This draft EIS, issued in July 1999, analyzes impacts of alternatives for treatment and management of DOE's inventory of sodium-bonded spent nuclear fuel, much of which is stored at INEEL. This type of fuel contains metallic sodium between the cladding and fuel to improve heat transfer during reactor operations. Treatment of this fuel may be needed prior to disposal due to its reactive and pyrophoric characteristics. Sites analyzed for treatment of this fuel are the Argonne National Laboratory - West at the INEEL and either the F Canyon or Building 105-L at the Savannah River Site. The draft EIS for sodium-bonded fuel evaluates management and treatment of some of the same types of waste that are evaluated in the Idaho HLW & FD EIS.

**CERCLA Record of Decision for Waste Area Group 3** – The INEEL Environmental Restoration Program evaluated potential remedial actions. During that evaluation, DOE identified discharges to the existing percolation ponds at INTEC to be a major factor in moving contaminants from the vadose zone under the Snake River Plain aquifer. Alternatives to the existing percolation ponds were evaluated in Davison (1998), including recycling, discharging to the Big Lost River, evaporation ponds, and moving the percolation ponds away from INTEC. This evaluation is consistent with the

Secretarial Policy on the National Environmental Policy Act (DOE 1994b), which states that DOE will rely on the CERCLA process for the review of actions to be taken under CERCLA and incorporate National Environmental Policy Act values of public involvement and understanding of environmental impacts. DOE, through the CERCLA Record of Decision for the Operable Unit 3-13 portion of Waste Area Group



3 (DOE 1999g), decided to replace the existing percolation ponds with new percolation ponds to be constructed approximately 10,200 feet southwest of the current percolation ponds. A wastewater land application permit application for the new ponds will be submitted to the State of Idaho by the spring of 2000. The existing ponds are not expected to receive wastewater after August 31, 2001 as the new ponds are planned to be operational by July 31, 2001. However, under the Record of Decision, the existing ponds will stop receiving wastewater prior to December 31, 2003. The impacts resulting from this decision and other remedial actions at INTEC carried out by the INEEL Environmental Restoration Program are presented as cumulative impacts in this Idaho HLW & FD EIS.

**The Waste Isolation Pilot Plant Disposal Phase Final Supplemental EIS (DOE 1997d)** – This supplemental EIS analyzes the treatment and storage of transuranic waste and disposal of such waste at the Waste Isolation Pilot Plant in Carlsbad, New Mexico. The final supplemental EIS was issued in September 1997. The Record of Decision for disposal of transuranic waste at the Waste Isolation Pilot Plant (63 FR 3624) was issued January 23, 1998. That decision calls for disposal of up to 175,600 cubic meters of transuranic waste at the Waste Isolation Pilot Plant after treatment, as necessary, to meet the waste acceptance criteria (Revision 5). A Record of Decision for the facility locations of treatment and storage of transuranic waste (63 FR 3629; January 23, 1998), based on the Waste Management PEIS, was issued at the same time. Some radioactive waste at INTEC may be affected by these transuranic waste management decisions based on this supplemental EIS and the Waste Management PEIS.

**EIS for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain (DOE 1999c)** – The Yucca Mountain EIS analyzes the potential environmental impacts associated with the disposal of HLW and spent nuclear fuel in a potential geologic repository at Yucca Mountain in Nevada. The draft EIS was issued August 13, 1999 (64 FR 44200). The EIS is scheduled for completion in August 2000 and would accompany any DOE recommendation to the President on whether to develop Yucca Mountain as a geo-

logic disposal site. INEEL's HLW could be eligible for disposal at Yucca Mountain should it be approved as a repository.

**Final Environmental Impact Statement, Tank Waste Remediation System (DOE 1996b)** – The Tank Waste Remediation System EIS evaluated alternatives for retrieval, treatment, and disposal of the Hanford tank wastes. The final EIS was issued in August 1996, and DOE's Record of Decision was published February 26, 1997 (62 FR 8693). A supplement analysis (DOE 1998b) considered new information and data obtained since the final EIS. The Tank Waste Remediation System EIS is relevant to the Idaho HLW & FD EIS because a portion of the inventory of radioactive waste at INTEC is being considered for treatment at the Hanford Site.

### 1.3.2 SCOPING PROCESS

The scoping process for the Idaho HLW & FD EIS began on September 19, 1997, when DOE published in the Federal Register its Notice of Intent to prepare an EIS to evaluate alternatives for managing HLW and associated radioactive wastes and facilities at INEEL (62 FR 49209). The Notice of Intent included DOE's preliminary identification of EIS issues.

In accordance with the Idaho HLW & FD EIS Public Scoping Plan, DOE sponsored a number of activities and worked with stakeholders to identify new alternatives and issues and allow for meaningful information exchange. The activities included open houses; booths and displays at shopping malls throughout southern Idaho; presentations to schools and civic groups; individual briefings to key stakeholders such as government and Tribal officials, interest groups, site employees, and the INEEL Citizens Advisory Board; and public scoping workshops.

Scoping workshops were conducted in Idaho Falls and Boise, Idaho. DOE made announcements in local newspapers and other media to alert the public about these meetings. The workshops provided both formal and informal ways for the public to express their views and obtain information about the intended scope of the analysis. Participants worked in breakout groups to identify issues and other alternatives the EIS should address. These issues and alternatives were entered as comments into the administra-

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tive record, along with written comments and transcriptions of personal interviews with stakeholders. The scoping period ended November 24, 1997.

During the scoping process, DOE received more than 900 comments addressing 49 categories under 8 issues areas (DOE also considered 69 comments it received either before or after the scoping period). The eight areas are: (1) alternatives; (2) environment, safety, and health; (3) legal, regulatory, and political; (4) National Environmental Policy Act process and public participation; (5) social, economic, and cultural; (6) technical issues; (7) other; and (8) out of scope. The key issues that were identified during the prescoping and scoping activities included:

**Treatment Criteria** – There is considerable uncertainty regarding the proposed repository at Yucca Mountain and the final technical standards for wastes that could be disposed of there. Given those uncertainties, determine what criteria DOE should use to establish that the waste form(s) produced are suitable for disposal in a geologic repository outside the State of Idaho (i.e., that a “road ready” waste form has been achieved).

**Disposal** – If a geologic repository is not available, determine what other disposal options exist for HLW outside the State of Idaho.

**Storage/Disposal in Idaho** – Clearly examine and explain any proposal to store or dispose of treated waste over the Snake River Plain aquifer, including performance-based or landfill closure of the Tank Farm as opposed to clean closure.

**Hazardous Constituents** – Develop a strategy for dealing with RCRA-regulated hazardous constituents.

**Technical Viability/Privatization** – Demonstrate in advance that the alternative selected will work. Stakeholders were cautious regarding privatization of the proposed actions.

**Cost-risk benefits** – The alternative selected should reduce health and safety risks enough to justify the cost of treatment and any additional risk to workers posed by the treatment activities.

**Funding** – Cleanup of the INEEL site is important, and the Federal government should seek adequate funding to honor its commitments to do so.

**Compliance Concerns** – Numerous, and in some cases conflicting, compliance requirements exist for the INEEL HLW management and facilities disposition activities. These conflicts should be clarified, and the compliance factors prioritized. The majority of the commenting stakeholders support the Settlement Agreement/Consent Order. Some stakeholders advocate consideration of a “fully compliant” alternative.

The results of the scoping activities for this EIS are documented in the Scoping Activity Report (DOE 1998c). DOE has used the comments to refine the alternatives and options analyzed in this EIS as described in Chapter 3.

Subsequent to the scoping period, three DOE documents with potential to influence the Idaho HLW & FD EIS were subjected to public evaluation and comment. These documents are (1) the Waste Area Group 3 Remedial Investigation/Feasibility Study (Rodriguez et al. 1997; DOE 1997e); (2) DOE’s Office of Environmental Management Remediation Plan for the DOE Weapons Complex (DOE 1998d); and (3) the AMWTP EIS (DOE 1999e). To the extent that public comments on these documents affect the Idaho HLW & FD EIS, DOE addressed them in this EIS.